

GENERAL POLICY AND PROCEDURE

DEPARTMENT OF PUBLIC SERVICE
TRANSPORTATION DIVISION
CITY OF COLUMBUS, OHIO

SUBJECT: Wheelchair Ramps -
Detectable Warnings

EFFECTIVE DATE: March 1, 2004
PAGES: 5
By: RJB

I. **Applicability.** This policy shall be applicable to the design and construction of all curb ramps, landings, or blended transitions within the public right-of-way and which are installed regardless of funding source or applicant.

II. **Effective Date.** This policy shall be effective March 1, 2004 and shall supercede the previous policy dated February 28, 2003. This policy shall apply to all public street curb ramps, whether currently under review or under construction as explained herein. No permit, plan or improvement project shall be accepted nor bond or other funds released by the City until the conditions of this policy have been fully met.

III. **Projects Under Review.** Plans submitted for review but not approved prior to the effective date of this policy shall be subject to the full requirements of this policy regardless of date submitted.

IV. **Projects Under Construction.**

A. All ramps covered by sidewalk permits or private development plans and not accepted into the public right-of-way before October 15, 2002 shall be provided with compliant detectable warnings.

B. All City projects awarded on or after July 26, 2001 shall be provided with compliant detectable warnings before the project is accepted or approved.

C. Wheelchair ramps on projects approved prior to the effective date of this policy may be permitted to comply with the previous version effective at the time the plans were approved, subject to the approval of the City Engineer. It is the intent of the City for all detectable warning surfaces constructed following the effective date of this policy to comply with updated requirements, however it is recognized that contracts may be in force under the terms of previous versions of this policy.

V. **Specifications.** The City of Columbus has specified a standard for the design and installation of Detectable Warning surfaces on curb ramps, landings, or blended transitions within the public right-of-way. These standards are set forth in Supplemental Specification 1551 and on City of Columbus Standard Drawing 2319 Dr. A.

VI. **Plan Requirements.** Provisions shall be clearly shown on the plans for the installation of compliant detectable warning surfaces on all curb ramps, landings, or blended transitions within the public right-of-way in accordance with the specifications.

VII. Current Revision – Supplemental Specification 1551, Detectable Warnings:
Certain changes and additions to Supplemental Specification #1551 - Detectable Warnings" have been made necessary in order to conform with new product approval procedures being implemented in the New Products Committee, and to allow the City more control and flexibility in approving the products and installation methods used for Detectable Warning Surfaces.

March 1 , 2004:

Major changes in this revision are:

- Places responsibility for product and installation warranty solely upon the Contractor.
- Clarification of product-type descriptions.
- Removed approval of Type "A" products for retrofit applications.
- A new product-type": Type "E" – Pre-Manufactured, Wet-Set Products has been added. This type of product is only approved for newly poured ramp installations. Previously, products included in this group were included with "Type "A" – Dimensional Pavers"
- Complete revision of Application notes for Type "A" – Pre-Cast, Manufactured Clay and Concrete Pavers: to better-define acceptance criteria and correct ambiguities in previous installation notes.

The following list details the changes, section-by-section, to Supplemental Specification #1551 - Detectable Warnings

1551.02 Materials

- **Changed:** "All products shall receive prior approval by the City Engineer and be included in the City of Columbus, Transportation Division listing of approved materials and suppliers for detectable warning surfaces." to "All products shall receive prior approval by the City Engineer and be included in the City of Columbus, Transportation Division current listing of approved Producers and Products for detectable warning surfaces. New Products shall be submitted for review and approval in accordance with the City's General Policy and Procedures for New Products, Materials, and Construction Procedures."
- **Changed:** "Type "A" – Dimensional Pavers - approved for both new construction and retrofit to pre-existing ramp installations." to "Type "A" – Pre-Cast, Manufactured Clay and Concrete Pavers - Approved for new construction, only."
- **Changed:** "Type "B" – Surface-Applied or Surface-Formed Domes - approved for retrofit to pre-existing ramp installations, only." to: "Type "B" – Surface-Applied or Surface-Formed Domes – Generally includes truncated domes bonded to the surface of existing curb ramps - Approved for retrofit, only."
- **Changed:** "Type "D" – Thin Tile and Thin Molded Sheet Goods (Rigid & Flexible) - approved for retrofit to pre-existing ramp installations, only." to: "Type "D" – Surface-Mounted, Thin Tile and Thin Molded Sheet Goods – Generally includes tiles or mats (rigid & flexible, with pre-formed truncated domes), bonded and/or anchored to the surface of existing curb ramps - Approved for retrofit, only"

Added: "Type "E" – Pre-Manufactured, Wet-Set Products – Generally includes rigid products pressed into freshly-formed concrete - Approved for new construction, only."

1551.03 Dimensions:

Added:

Pavers shall be laid so that the centers of domes align with a straightedge placed both perpendicular and parallel with the direction of travel. Dome Alignment may not differ by more than 1/4-inch.

1551.04 Application:

- **Changed:** "Detectable warning devices shall be installed in accordance with manufacturer's specifications, or as otherwise specified on the plans." to: "Detectable warning devices shall be installed in accordance with manufacturer's specifications, except as modified by this specification".
- **Changed:** "The contractor and manufacturer shall jointly warrant the installed surface....." to: "The contractor shall warrant the installed surface..."

- **Deleted:**

Type "A" – Dimensional Pavers:

- Pavers shall be laid on a 4" unreinforced concrete base. Setting bed and joints shall be mortared in accordance with manufacturer's instructions, or with a maximum 1/2" thick bed of latex modified cement mortar.
- Mortar joints to a width not greater than 5/32" and not less than 1/16". Pavers shall not be directly touching each other unless they have spacing bars.
- Mortared joints shall be flush with top surface and struck so as to give a smooth surface. Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and to concrete surface.
- The surface of any two adjacent units should not differ by more than 1/8" in height. Pavers shall be placed in a running bond pattern.
- Face of all pavers shall be clean of cement and protected so as to avoid chipping during construction.

Type "B" – Surface-Applied or Surface-Formed Domes:

- Surface Applied Domes shall be installed in accordance with manufacturer's specifications as approved by the City Engineer

Type "C" – Stamped, Color Dyed Concrete:

- Stamped, Color Dyed Concrete shall be installed in accordance with manufacturer's specifications as approved by the City Engineer

Type "D" – Thin Tile and Thin Molded Sheet Goods:

- *Thin Tile and Thin Molded Sheet Goods shall be installed in accordance with manufacturer's specifications as approved by the City Engineer*
- **Added:**
Special Application Notes: Type "A" – Pre-Cast, Manufactured Clay and Concrete Pavers:
 - *Pavers shall be laid on an unreinforced concrete base. Thickness of the base shall be the greater of 4" or the specified thickness of the curb ramp.*
 - *Pavers shall be set into a 1/2-inch thick bed of freshly poured latex or epoxy -modified cement mortar.*
 - *Pavers (exclusive of domes) shall be flush with the surrounding concrete. The surface shall not differ by more than 1/8-inch in height.*
 - *Pavers shall be laid so that the center of domes align with a straight-edge placed both perpendicular and parallel with the direction of travel. Dome Alignment may not differ by more than 1/4-inch.*
 - *Joints between pavers and surrounding concrete surface shall be mortared and shall not exceed 1/4-inch in width. Mortared joints shall be flush with top surface and struck so as to give a smooth surface.*
 - *Joint spacing between pavers shall be no greater than 5/32-inch and not less than 1/16-inch. Pavers shall not be directly touching each other unless they have spacing bars*
 - *Joints between pavers shall be sand-filled. Sand shall be washed, non-plastic, well-graded angular material free from deleterious or foreign matter, with maximum particle size not larger than the specified joint spacing. Gradation shall conform to Item 703.02 fine aggregate for concrete. Sweep this material to fill the joints and water with a fine mist. Repeat as necessary to achieve a sand-filled joint. When requested by the Engineer, the Contractor shall submit gradation analysis of the proposed joint material performed in accordance with ASTM C-136.*
 - *Pavers shall consist of full, completely formed domes and shall be crack-free.*
 - *Face of all pavers shall be clean of cement and protected so as to avoid chipping during construction.*
 - *A minimum of 6" horizontal edge restraint shall be provided around the full perimeter of the detectable warning pavers. The restraints shall consist of class C cast in place concrete, (City of Columbus CMS item 499).*

1551.06 Basis of Payment

Changed:

<u>Item</u>	<u>Unit</u>	<u>Description</u>
1551	Each	Detectable Warning, Type "A" New
1551	Each	Detectable Warning, Type "A" Retrofit
1551	Each	Detectable Warning, Type "B"
1551	Each	Detectable Warning, Type "C"
1551	Each	Detectable Warning, Type "D"

To:

<u>Item</u>	<u>Unit</u>	<u>Description</u>
1551	Each	Detectable Warning, Type "A"
1551	Each	Detectable Warning, Type "B"
1551	Each	Detectable Warning, Type "C"
1551	Each	Detectable Warning, Type "D"
1551	Each	Detectable Warning, Type "E"